[illegible]36[illegible] [illegible]

1[illegible]x[illegible]$x\ln x - x^3 + x^2 \leq ae^x$[illegible]$a$[illegible]

2[illegible]x[illegible]$2ae^{2x} - \ln x + \ln a \geq 0$[illegible]$x > 0$[illegible]$a$[illegible]

3[illegible]$f(x) = e^x$[illegible]

[illegible]1[illegible]$g(x) = f(ax) - x - a$[illegible]

[illegible]2[illegible]$f(x) + \ln x + \dfrac{3}{x} > \dfrac{4}{\sqrt{x}}$[illegible]

4[illegible]$f(x) = ae^{x-1} - \dfrac{2\sqrt{x}}{a} + 1$[illegible]

[illegible]1[illegible]$a = 1$[illegible]$f(x)$[illegible]

[illegible]2[illegible]①[illegible]$x \in (0, +\infty)$[illegible]$f(x) \geq \dfrac{(x-1)^2}{2}$[illegible]$a$[illegible]

② [illegible]$e^{x-1} - 2\sqrt{x} - \ln x + \dfrac{3}{2} \geq 0$[illegible]

6[illegible]$f(x) = \ln x + \dfrac{a}{x} + x$[illegible]

[illegible]1[illegible]$f(x)$[illegible]

[illegible]2[illegible]$x \in (\dfrac{1}{2}, +\infty)$[illegible]$xf(x) < e^x + x^2$[illegible]$a$[illegible]

7□□□□ $f(x)=\ln x+\frac{a}{x}+x$ □

□1□□ $a=1$ □□□□ $f(x)$ □□ $(1$ □ f □1□ $)$ □□□□□□□

□2□□□□□ $x\in(\frac{1}{2},+\infty)$ □ $xf(x)<e^x+x^2$ □□□□□□□ a □□□□□□

8□□□□ $f(x)=\frac{\ln x+k}{e^x}(k$ □□□□ $e=2.71828\cdots$ □□□□□□□□□□□□ $y=f(x)$ □□ $(1$ □ f □1□ $)$ □□□□□ x □□□□

□I□□ k □□□

□II□□ $f(x)$ □□□□□□

□III□□ $g(x)=(x^2+x)f'(x)$ □□□ $f'(x)$ □ $f(x)$ □□□□□□□□□□□ $x>0$ □ $g(x)<1+e^{-2}$ □

9□□□□ $f(x)=\frac{a}{2}x^2-\ln x+x+1$ □ $g(x)=ae^x+\frac{a}{x}+ax-2a-1$ □□□ $a\in R$

□1□□ $a=1$ □□□□ $g(x)$ □ $[1$ □ $3]$ □□□□

□2□□□□□□ $x\in(0,+\infty)$ □ $g(x)\geqslant f(x)$ □□□□□□□□ a □□□□□□

10□□□□□ $f(x)=e^{x}-x^{2}$

□1□□ $g(x)=f(x)-ax+\frac{1}{2}(x^{2}-a^{2})$ □□ $x\geq 0$ □□ $g(x)\geq 0$ □□□□□□□ a □□□□□□

□2□□ $x>0$ □□□□ $f(x)-ex\geq xlnx-x^{2}-x+1$

11□□□□□ $f(x)=e^{x}+xlnx-x^{2}+(1-a)x$ □

□1□□□ $y=f(x)$ □□ $(1$ □ f □1□ $)$ □□□□□□□0□□ a □□□

□2□□ $f(x)\geq 0$ □□□□□ a □□□□□□

12□□□□□ $f(x)=x(lnx+1)$ □ $g(x)=x^{2}-ae^{x}(a\in R)$ □

□1□□ $a=1$ □□□□□ $g(x)$ □□□□□□

□2□□ $f(x)\geq g(x)$ □ $[1$ □ $+\infty)$ □□□□□□ a □□□□□□